

Art Unit: 2652

CLMPTO

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Please cancel claims 1-65

Please add the following new claims

66. A radiation image pick-up apparatus, having:

an insulating substrate;

a photoelectric conversion circuit section formed on said substrate and comprising a plurality of photoelectric conversion elements, switching elements having output terminals and control terminals, signal wires connected to the output terminals of the switching elements, and drive wires connected to the control terminals of said switching elements;

a driving circuit section adapted to apply a driving signal to said drive wires;

and

a reading circuit section adapted to convert parallel signals transferred through said signal wires to serial signals to output the serial signals;

wherein the photoelectric conversion elements are formed from amorphous semiconductor, and the driving circuit and reading circuit sections are joined from crystalline semiconductor,

and wherein said reading circuit section comprises, for each signal line, a reset switch, an analog operational amplifier, a buffer amplifier, a transfer switch for sampling an output signal amplified by said analog operational amplifier, a capacitor adapted to hold the signal transferred through said transfer switch, and a reading switch adapted to

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successively read the output signal said buffer amplifier in the form of serial signals, and wherein said reset switch is adapted to reset said signal wires after a sample-and-hold of the output signal from said analog operational amplifier through said transfer switch to said capacitor, said reading circuit section further comprising, for each signal line, a capacitor element connected in series in the output wire from the analog operational amplifier, for permitting only alternating-current components to pass, and a reset switch coupled to said capacitor element for DC restoration.

67. (New) A radiation image pick-up system comprising:

a light source;

an insulating substrate; and

a photoelectric conversion apparatus having a photoelectric conversion circuit section formed on said substrate and comprising a plurality of photoelectric conversion elements, a plurality of switching elements comprising output terminals and control terminals, a plurality of signal wires connected to the output terminals of said switching elements, and drive wires connected to the control terminals of said switching elements;

a driving circuit section adapted to apply a driving signal to said drive wires;

and

a reading circuit section adapted to convert parallel signals transferred through said signal wires to serial signals to output the serial signals.

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wherein the photoelectric conversion elements are formed from amorphous semiconductor, and the driving circuit and reading circuit sections are formed from crystalline semiconductor,

and wherein said reading circuit section comprises, per each signal line a reset switch, an analog operational amplifier, a buffer amplifier, a transfer switch for sampling an output signal amplified by said analog operational amplifier, a capacitor adapted to hold the signal transferred through said transfer switch, and a reading switch adapted to successively read the output signal of said buffer amplifier in the form of serial signals, and wherein said reset switch is adapted to reset said signal wires after a sample-and-hold of the output signal from said analog operational amplifier through said transfer switch to said capacitor, said reading circuit section further comprising for each signal line, a capacitor element connected in series in the output wire from the analog operational amplifier, for permitting only alternating-current components to pass, and a reset switch coupled to said capacitor element for DC restoration.

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